

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 April 2004 (29.04.2004)

PCT

(10) International Publication Number
WO 2004/036379 A2

(51) International Patent Classification⁷: **G06F**

(21) International Application Number:
PCT/US2003/033009

(22) International Filing Date: 17 October 2003 (17.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/419,256 17 October 2002 (17.10.2002) US

(71) Applicant (for all designated States except US): **THE GENERAL HOSPITAL CORPORATION** [US/US]; 55 Fruit Street, Boston, MA 02114 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BONMASSAR, Giorgio** [IT/US]; 16 Taft Avenue, Lexington, MA 02421 (US). **BELLIVEAU, John, W.** [US/US]; 85 East India Row 24C, Boston, MA 02119 (US).

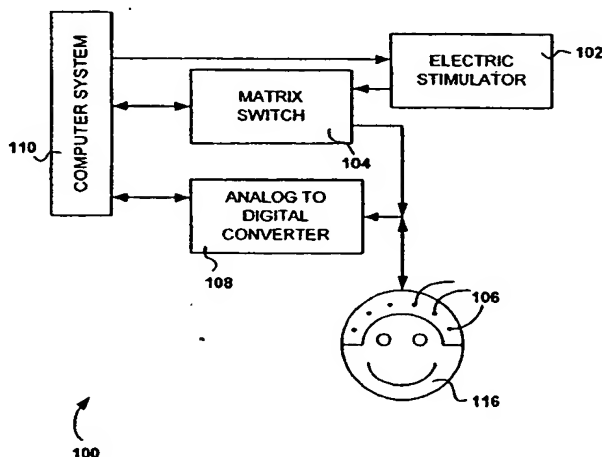
Published:

— without international search report and to be republished upon receipt of that report

(74) Agent: **ABELEV, Gary**; Baker Botts L.L.P., 30 Rockefeller Plaza, New York, NY 10112-4498 (US).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ARRANGEMENT AND METHOD FOR DETECTING ABNORMALITIES AND INCONSISTENCIES IN A BODY



(57) Abstract: A system for detecting abnormalities or inconsistencies and a method to utilize the same are provided. In particular, a computer system may be adapted to detect the abnormality or inconsistency within at least a portion of a subject by generating internal impedance data which indicates that an impedance change within the portion of the subject has occurred. For example, the impedance change may be associated with a change in at least one characteristic of a blood vessel within the subject (such as a change in a fluid flow rate within at least a portion of the subject), a change in a fluid volume within at least a portion of the subject, etc. The impedance change also may be associated with the presence of a foreign object within the portion of the subject. In an exemplary embodiment, it is possible to detect the abnormality or inconsistency within the subject by generating a continuous, real time internal impedance map indicating the impedance change within the subject. Alternatively, the abnormality or inconsistency may be detected within the subject by generating a plurality of static internal impedance maps which indicate that the impedance change within the subject has occurred.

WO 2004/036379 A2